

AMENDMENTS TO THE CLAIMS

The following listing will replace all previous listings of the claims:

1-104. (CANCELED)

105. (CURRENTLY AMENDED) A method comprising assessing an occurrence in a human's genome of a quantity of ~~a disorder~~ an oxidative damage-associated polymorphism in each of two genes, the genes consisting of a superoxide dismutase gene and a catalase gene whereby each occurrence of ~~a disorder~~ an oxidative damage-associated polymorphism in each gene indicates an increased susceptibility of the human to a pathology involving oxidative damage to the human, relative to a human with fewer or no ~~disorder~~ oxidative damage-associated polymorphisms, and wherein the method assesses a relative susceptibility of the human to oxidative damage.

106-109 (CANCELED)

110. (CURRENTLY AMENDED) A method comprising assessing a relative degree to which a human is susceptible to an undesirable oxidative stress condition by identifying a polymorphism in each of a gene encoding a superoxide dismutase, and a gene encoding a catalase,

the polymorphism identified as correlated with exhibition by a human of ~~any~~ a pathology involving oxidative damage, thereafter calculating a susceptibility value for the condition by either

summing the identified polymorphisms to yield a value for the human, or

assigning a weighting factor to each polymorphism and then summing the weighting factors to yield a value for the human,

wherein a value for the human greater than a value for a control indicates a greater susceptibility to the oxidative stress condition for the human,

the method hereby assessing the degree to which the human is susceptible to the undesirable oxidative stress condition relative to a human with fewer or no ~~disorder~~ oxidative damage-associated polymorphisms in these two genes.

111. (CURRENTLY AMENDED) A method comprising assessing occurrence in a human's genome of a quantity of ~~a disorder~~ an oxidative damage-associated polymorphism in each of two genes, the genes consisting of a superoxide dismutase gene and a catalase gene, whereby each occurrence of ~~a disorder~~ an oxidative damage-associated polymorphism in each gene indicates an increased susceptibility of the human to a pathology involving oxidative damage relative to another human with fewer or no ~~disorder~~ oxidative damage-associated polymorphisms, and thus a desirability to administer an antioxidant composition or an increased dose of an anti-oxidant composition to the human.

112. (NEW) A method comprising assessing an occurrence in a human's genome of a quantity of a ~~disorder~~ an oxidative damage-associated polymorphism in each of two genes, the genes consisting of a superoxide dismutase gene and a catalase gene,

wherein the oxidative damage-associated polymorphism in the catalase gene is a polymorphism manifested as a change from a cytosine residue to a thymine residue at nucleotide residue -262 of the catalase gene and the oxidative damage-associated polymorphism in a superoxide dismutase gene is selected from the group consisting of:

a) a polymorphism manifested as a change from an alanine residue to a valine residue at amino acid residue 9 of manganese superoxide dismutase (MnSOD);

b) a polymorphism manifested as a change from an isoleucine residue to a thymine residue at amino residue 58 of MnSOD;

c) a polymorphism manifested as a change from a valine residue to a glutamic acid residue at amino acid residue 7 of copper/zinc superoxide dismutase (CZSOD); and

d) a polymorphism manifested as a change from a cysteine residue to a phenylalanine residue at amino acid residue 6 of CZSOD;

whereby each occurrence of a ~~disorder~~ an oxidative damage-associated polymorphism in each gene indicates an increased susceptibility of the human to a pathology involving oxidative damage to the human, relative to a human with fewer or no ~~disorder~~ oxidative damage-associated polymorphisms, and wherein the method assesses a relative susceptibility of the human to oxidative damage.